

Claims

- [c1] An articulated flag member arrangement, comprising:
 - a first flag body having a first projection, the first flag body pivotably connected to a device such that an object moving in a first direction and contacting the first projection of the first flag body rotates the first flag body in a second direction;
 - a second flag body having a first projection, the second flag body pivotably connected to the device such that an object moving in a direction opposite to the first direction and contacting the first projection of the second flag body rotates the second flag body in a direction opposite to the second direction, the first and second flag bodies interacting such that at least one of the first and second flag bodies rotates based on rotation of the other of the first and second flag bodies.
- [c2] The arrangement of claim 1, wherein the second flag body interacts with the first flag body such that the first flag body rotates in the second direction based on rotation of the second flag body.
- [c3] The arrangement of claim 2, wherein the second flag

body interacts with the first flag body such that the first flag body rotates in the second direction based on rotation of the second flag body further than the first flag body rotates in the second direction when an object moving in the first direction contacts the first projection of the first flag body.

- [c4] The arrangement of claim 2, further comprising a lateral projection of at least one of the first flag body and the second flag body, the lateral projection contacting the other of the first flag body and the second flag body such that the first flag body rotates in the second direction based on rotation of the second flag body.
- [c5] The arrangement of claim 4, further comprising a curved surface of at least one of the first flag body and the second flag body that contacts the lateral projection of the other of the first flag body and the second flag body such that the first flag body rotates in the second direction based on rotation of the second flag body.
- [c6] The arrangement of claim 2, further comprising a curved surface of at least one of the first flag body and the second flag body that contacts the other of the first flag body and the second flag body such that the first flag body rotates in the second direction based on rotation of the second flag body.

- [c7] The arrangement of claim 2, further comprising a sensor that receives a signal when the first flag body is in a first position, the sensor being located such that a second projection of the first flag body prevents the sensor from receiving the signal when an object moving in the first direction contacts the first projection of the first flag body and rotates the first flag body into a second position, and such that the sensor receives the signal when the first flag body rotates in the second direction, based on rotation of the second flag body, into a third position.
- [c8] The arrangement of claim 7, wherein the first position of the first flag body is an at rest position of the first flag body.
- [c9] The arrangement of claim 7, further comprising a biasing member that biases the first flag body toward the first position.
- [c10] The arrangement of claim 7, further comprising a biasing member that biases the second flag body against rotation in the direction opposite to the second direction.
- [c11] The arrangement of claim 1, wherein the first flag body interacts with the second flag body such that the second flag body rotates in the direction opposite to the second direction based on rotation of the first flag body.

- [c12] The arrangement of claim 11, wherein the second flag body is pivotably connected to the first flag body.
- [c13] The arrangement of claim 12, further comprising a stop that limits rotation of the second flag body in the second direction.
- [c14] The arrangement of claim 11, further comprising a sensor that receives a signal when the second flag body is in a first position, the sensor being located such that a second projection of the second flag body prevents the sensor from receiving the signal when an object moving in a first direction contacts the first projection of the first flag body and rotates the second flag body into a second position, and such that the sensor receives the signal when an object moving in the direction opposite to the first direction contacts the first projection of the second flag body and rotates the second flag body in the direction opposite to the second direction into a third position.
- [c15] The arrangement of claim 14, wherein the first position of the second flag body is an at rest position of the second flag body.
- [c16] The arrangement of claim 14, further comprising a biasing member that biases the second flag body toward the first position.

- [c17] The arrangement of claim 14, further comprising a biasing member that biases the first flag body toward an at rest position.
- [c18] A method for detecting bi-directional passage of an object in a processing path using an articulated flag member arrangement, the articulated flag member arrangement comprising:
 - a first flag body having a first projection, the first flag body pivotably connected to a device; and
 - a second flag body having a first projection, the second flag body pivotably connected to the device, the first and second flag bodies arranged to interact with each other, the method comprising:
 - passing a signal relative to one of the first and second flag bodies, passage of the signal indicating one of an at-rest position and an operated position of one of the first and second flag bodies;
 - contacting the first projection of the first flag body with an object that is traveling in a processing path in a first direction, causing the first flag body to rotate in a second direction and to alter the passing of the signal; and
 - contacting the first projection of the second flag body with an object that is traveling in a processing path in a direction opposite to the first direction,

causing the second flag body to rotate in a direction opposite to the second direction and to alter the passing of the signal.

- [c19] The method of claim 18, further comprising interacting the second flag body with the first flag body such that the first flag body rotates in the second direction based on rotation of the second flag body.
- [c20] The method of claim 18, further comprising interacting the first flag body with the second flag body such that the second flag body rotates in the direction opposite to the second direction based on rotation of the first flag body.